Volume 78-B 1996

THE JOURNAL OF BONE AND JOINT SURGERY

BRITISH VOLUME

Published in London by the British Editorial Society of Bone and Joint Surgery
American Volume published at 20 Pickering Street, Needham, Massachusetts

THE JOURNAL OF BONE AND JOINT SURGERY

British Editor PHILIP FULFORD

Consulting Editor JOHN GOODFELLOW

British Editorial Board
David L. Hamblen, *Chairman*
M. K. D. Benson, *Secretary and Treasurer*
Philip Fulford, *Editor*
Frank Horan, *Associate Editor*
Leslie Klenerman, *Assistant Editor*
Michael Laurence, *Book Review Editor*
A. Catterall, *President, BOA*
H. Phillips, *Treasurer, BOA*
A. Jackson, *Editorial Secretary, BOA*
A. Amis, *Representative, BORS*
J. S. Albert, Norwich, England
G. Bannister, Bristol, England
J. N. Bear, Durban, South Africa
C. J. K. Bulstrode, Oxford, England
S. R. Cannon, London, England
D. J. Dandy, Cambridge, England
B. J. Einoder, Launceston, Australia
R. Esteve de Miguel, Barcelona, Spain
B. Foster, Adelaide, Australia
P. J. Gregg, Leicester, England
D. H. A. Jones, London, England
I. G. Kelly, Glasgow, Scotland
J. Kenwright, Oxford, England
M. F. Macnicol, Edinburgh, Scotland
B. F. Meggitt, Cambridge, England
R. C. Mulholland, Nottingham, England
N. Rushton, Cambridge, England
N. S. Schachar, Calgary, Canada
L. Sedel, Paris, France
R. Sweetnam, London, England
A. Thurston, Wellington, New Zealand
M. Tile, Toronto, Canada
J. K. Webb, Nottingham, England

British Council of Management
David L. Hamblen, *Chairman*
A. Catterall, *President, BOA*
M. K. D. Benson, *Secretary and Treasurer*
Rodney Sweetnam

British Office
22 Buckingham Street, London WC2N 6ET, England
Manager: Jenny Gretton
Production Editor: Fay Miller
Subscription Manager: Gerald Rogers

American Office
20 Pickering Street, Needham, Massachusetts 02192, USA
Managing Editor: H. Stephen Tilton
Assistant Managing Editor: Mady Tissenbaum
Subscription Manager: Abraham N. Brody

American Editor HENRY R. COWELL

Editor Emeritus THORNTON BROWN
Editor Emeritus PAUL H. CURTISS, JR
Deputy Editor Emeritus Jonathan Cohen

American Board of Associate Editors
Henry R. Cowell, *Editor and Chairman*
Robert W. Bucholz, *Deputy Editor for Trauma*
Charles R. Clark, *Deputy Editor for Adult Reconstruction*
Thomas A. Einhorn, *Deputy Editor for Current Concept Reviews*
James Heckman, *Deputy Editor for Instructional Course Lectures*
Jesse Jupiter, *Deputy Editor for Hand and Upper Extremity*
William D. Stanish, *Deputy Editor for Sports Medicine*
Leela Rangaswamy, *Deputy Editor*
Richard E. Senghas, *Deputy Editor*
George S. Bassett, Los Angeles, California
Eugene E. Berg, Columbia, South Carolina
David Blaha, Morgantown, West Virginia
Robert J. Brumback, Baltimore, Maryland
Malcolm E. Ecker, Philadelphia, Pennsylvania
Robert E. Eilert, Denver, Colorado
M. Mark Hoffer, Downey, California
S. Jay Kumar, Wilmington, Delaware
James P. McAuley, Ottawa, Ontario, Canada
Peter L. Meehan, Atlanta, Georgia
Douglas J. Pritchard, Rochester, Minnesota
James A. Rand, Rochester, Minnesota
Cecil H. Rorabeck, London, Ontario, Canada
Bruce J. Sangeorzan, Seattle, Washington
E. Shannon Stauffer, Springfield, Illinois
Marvin E. Steinberg, Philadelphia, Pennsylvania
Marc F. Swiontkowski, Seattle, Washington
George H. Thompson, Cleveland, Ohio

Board of Consulting Editors for Research
Lawrence C. Rosenberg, *Deputy Editor for Research*
Albert H. Burstein, *Deputy Editor for Research*
Gary Balian, Charlottesville, Virginia
Thomas W. Bauer, Cleveland, Ohio
Thomas D. Brown, Iowa City, Iowa
Joseph A. Buckwalter, Iowa City, Iowa
Dwight T. Davy, Cleveland, Ohio
Howard D. Dorfman, New York, NY
Gary E. Friedlaender, New Haven, Connecticut
Victor M. Goldberg, Cleveland, Ohio
Steven A. Goldstein, Ann Arbor, Michigan
Ernst B. Hunziker, Berne, Switzerland
Paul R. Manske, St Louis, Missouri
Keith Markolf, Los Angeles, California
Frederick A. Matsen III, Seattle, Washington
Alexander A. Sapega, Philadelphia, Pennsylvania
Frederic Shapiro, Boston, Massachusetts
Suzanne S. Spannier, Gainesville, Florida
Neil I. Spielholz, New York, NY
Sharon Stevenson, Cleveland, Ohio
Timothy M. Wright, New York, NY

American Board of Trustees
Larry S. Matthews, *Chairman*
Newton C. McCollough III, *Vice-Chairman*
Paul J. Hirsch, *Treasurer*
George E. Omer, Jr, *Secretary*
Henry R. Cowell, *Editor*
Donald B. Kettelkamp
Michael W. Chapman
James D. Heckman

Official Publication of the

BRITISH ORTHOPAEDIC ASSOCIATION
AUSTRALIAN ORTHOPAEDIC ASSOCIATION
CANADIAN ORTHOPAEDIC ASSOCIATION
IRISH ORTHOPAEDIC ASSOCIATION
NEW ZEALAND ORTHOPAEDIC ASSOCIATION
SOUTH AFRICAN ORTHOPAEDIC ASSOCIATION
BRITISH ORTHOPAEDIC RESEARCH SOCIETY
European Federation of National Associations of Orthopaedics and Traumatology - EFORT

AMERICAN ORTHOPAEDIC ASSOCIATION
AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS
WESTERN ORTHOPAEDIC ASSOCIATION
EASTERN ORTHOPAEDIC ASSOCIATION
MID-AMERICA ORTHOPAEDIC ASSOCIATION
CANADIAN ORTHOPAEDIC RESEARCH SOCIETY

British Orthopaedic Association
A. Catterall, *President*
A. Jackson, *Editorial Secretary*
R. Vickers, *Honorary Secretary*
Royal College of Surgeons, 35-43 Lincoln's Inn Fields, London WC2A 3PN

Australian Orthopaedic Association
J. Scott Harbison, *President*
D. J. Rush, *President-Elect*
B. J. Einoder, *Editorial Secretary*
B. G. Courtenay, *Secretary*
Culwalla Chambers, 67 Castlereagh Street, Sydney, NSW 2000

Canadian Orthopaedic Association
André Beaupré, *President*
Robert F. Martin, *President-Elect*
James P. Waddell, *Second President-Elect*
Robert M. Hollinshead, *Secretary*
1440 St Catherine Street West, Suite 421, Montréal, Québec H3G 1R8

New Zealand Orthopaedic Association
Christopher Bossley, *President*
A. Thurston, *Editorial Secretary*
Brett Krause, *Secretary*
PO Box 7451, Wellington South

South African Orthopaedic Association
James B. Craig, *President*
A Schepers, *Treasurer*
I. M. Rogan, *Secretary*
PO Box 72524, Parkview 2122, Johannesburg

Irish Orthopaedic Association
John A. Halliday, *President*
Michael Stephens, *Secretary*
Cappagh Orthopaedic Hospital, Finglass, Dublin 11, Irish Republic

European Federation of National Associations of Orthopaedics and Traumatology - EFORT
M. A. R. Freeman, *President*
Jacques Duparc, *Editorial Secretary*
E. F. Lavelle, *Secretary*
Beaumont Hospital, Dublin 9, Ireland

British Orthopaedic Research Society
S. P. F. Hughes, *President*
A. A. Amis, *Treasurer*
A. H. W. Simpson, *Secretary*
Nuffield Department of Orthopaedic Surgery, Headington, Oxford, OX3 7LD

American Orthopaedic Association
Harold M. Dick, *President*
G. Paul De Rosa, *First President-Elect*
Stuart L. Weinstein, *Second President-Elect*
Richard N. Stauffer, *Secretary*
6300 North River Road, Suite 300, Rosemont, Illinois 60018-4263

American Academy of Orthopaedic Surgeons
James W. Strickland, *President*
Kenneth E. De Haven, *First Vice-President*
Douglas W. Jackson, *Second President-Elect*
D. Eugene Thompson, *Secretary*
6300 North River Road, Suite 300, Rosemont, Illinois 60018-4263

Western Orthopaedic Association
Thomas G. Grace, *President*
Thomas B. Grollman, *First Vice-President*
Michael T. Phillips, *Second President-Elect*
Lawrence R. Housman, *Secretary*
2424 North Wyatt Drive, #260, Tucson, Arizona 85712

Eastern Orthopaedic Association
Stephen F. Gunther, *President*
L. Andrew Koman, *First Vice-President*
Chitranjan S Ranawat, *Second President-Elect*
Charles H. Classen, Jr, *Secretary*
Suite 5D, Pier 5 North, 7 North Columbus Boulevard, Philadelphia, Pennsylvania 19106

Mid-America Orthopaedic Association
G. Paul DeRosa, *President*
Robert H. Fitzgerald, *First Vice-President*
Alan H. Wilde, *Second President-Elect*
Carl L. Nelson, *Secretary*
201 First Avenue, S. W. Suite 411, Rochester, Minnesota 55902

Canadian Orthopaedic Research Society
Earl Bogoch, *President*
Robert B. Bourne, *Programme Chairman*
Robert C. Bray, *Secretary*
1440 St Catherine Street West, Suite 225 Montreal, Quebec H3B 1H9

CONTENTS

British Volume, 78-B, 1996

Editorials

RSA in the assessment of aseptic loosening 1
K. G. Nilsson and J. Kärrholm

Orthopaedic information – a superglut? 3
D. J. Dandy

Review, references and reports 173
P. Fulford

Magnetic resonance imaging of meniscal tears of the knee 174
A. K. Dixon

Prospects for the treatment of spinal cord and peripheral nerve injury 176
T. E. J. Hems and M. A. Glasby

Is polyethylene still the best prosthetic bearing surface? 345
A. A. Amis

The Herbert screw for fractures of the scaphoid 517
N. J. Barton

The current status of hydroxyapatite coating of prostheses 689
K. Søballe and S. Overgaard

Evidence-based choice of hip prostheses 691
R. W. Morris

Research section 861
P. Fulford and L. Lidgren

Advice for authors - blinding and references 862

Scientific papers

Aseptic loosening in cemented custom-made prosthetic replacements for bone tumours of the lower limb 5
P. S. Unwin, S. R. Cannon, R. J. Grimer, H. B. S. Kemp, R. S. Sneath and P. S. Walker

The effect of methotrexate-loaded bone cement on local destruction by the VX_2 tumour 14
H. M. Wang, S. Crank, G. Oliver and C. S. B. Galasko

Systemic release of cobalt and chromium after uncemented total hip replacement 18
D. N. Kreibich, C. G. Moran, H. T. Delves, T. D. Owen and I. M. Pinder

HIV infection of human cartilage 22
D. G. Campbell, P. Li and R. D. Oakeshott

Intercalary replacement of canine femora using a new bioactive bone cement 26
Y. Senaha, T. Nakamura, J. Tamura, K. Kawanabe, H. Iida and T. Yamamuro

The effects of particulate polyethylene at a weight-bearing bone-implant interface 32
M. Allen, F. Brett, P. Millett and N. Rushton

Histological features of large bone allografts 38
F. Gouin, N. Passuti, V. Verriele, J. Delecrin and J. V. Bainvel

Bone growth and remodelling after fracture 42
D. W. Murray, J. Wilson-MacDonald, E. Morscher, B. A. Rahn and M. Käslin
Diagnosis of osteomyelitis in neuropathic foot ulcers 51
S. Crerand, M. Dolan, P. Laing, M. Bird, M. L. Smith and L. Klenerman
Subtalar stress radiography using forced dorsiflexion and supination 56
T. Ishii, S. Miyagawa, T. Fukubayashi and K. Hayashi
Tibialis posterior transfer for the correction of foot drop in leprosy 61
D. Soares
The 'small-patella' syndrome 63
F. Dellestable, P. Péré, A. Blum, D. Régent and A. Gaucher
Knee joint loading and tibial component loosening 66
M. B. Hilding, H. Lanshammar and L. Ryd
Quality-of-life improvement compared after hip and knee replacement 74
F. H. Norman-Taylor, C. R. Palmer and R. N. Villar
Obesity and quality of life after primary hip arthroplasty 78
C. L. H. Chan and R. N. Villar
Polyethylene wear in the Charnley offset bore acetabular cup 82
R. J. Izquierdo-Avino, P. D. Siney and B. M. Wroblewski
Migration and wear of a hydroxyapatite-coated hip prosthesis 85
I. Önsten, Å. S. Carlsson, L. Sanzén and J. Besjakov
Air contamination during skin preparation and draping in joint replacement surgery 92
A. R. Brown, G. J. S. Taylor and P. J. Gregg
Acute compartment syndrome in tibial diaphyseal fractures 95
M. M. McQueen, J. Christie and C. M. Court-Brown
Compartment monitoring in tibial fractures 99
M. M. McQueen and C. M. Court-Brown
Management of nonunion of fractures by distraction with correction of angulation and shortening 105
M. Saleh and S. Royston
Displaced fractures of the distal femur in elderly patients 110
M. S. Butt, S. J. Krikler and M. S. Ali
Prediction of the outcome after hip fracture in elderly patients 115
O. Svensson, L. Strömberg, G. Öhlén and U. Lindgren
Functional outcome measures after displaced intra-articular calcaneal fractures 119
K. A. Hildebrand, R. E. Buckley, N. G. H. Mohtadi and P. Faris
Bipolar salvage shoulder arthroplasty 124
M. Watson
Local corticosteroid injection versus Cyriax-type physiotherapy for tennis elbow 128
J. A. N. Verhaar, G. H. I. M. Walenkamp, H. van Mameren, A. D. M. Kester and A. J. van der Linden
Metacarpal lengthening after traumatic amputation of the thumb 133
V. Finsen and H. Russwurm
Percutaneous screw removal in slipped upper femoral epiphysis 137
M. A. Gruber, K. D. Starkweather, W. A. Healy III and S. Haralabatos
Treatment of severe flexion deformity of the knee in children and adolescents using the Ilizarov technique 140
J.-P. Damsin and I. Ghanem
Osteomesopycnosis: the first report from Japan 145
M. Nakamura, S. Masumi and M. Nakamura
The cementless PM hip arthroplasty 195
M. Dickob and T. Martini
Hydroxyapatite coating of an acetabular prosthesis 200
T. Moilanen, G. W. Stocks, M. A. R. Freeman, G. Scott, W. D. Goodier and S. J. W. Evans
Surgical experience related to dislocations after total hip arthroplasty 206
U. Hedlundh, L. Ahnfelt, C.-H. Hybbinette, J. Weckström and H. Fredin
The frequency of venous thrombosis in cemented and non-cemented hip arthroplasty 210
A. Laupacis, C. Rorabeck, R. Bourne, P. Tugwell, R. Bullas, R. Rankin, A. D. Vellet, D. Feeny and C. Wong

Structural allograft in two-stage revisions for failed septic hip arthroplasty 213
M. Alexeeff, N. Mahomed, E. Morsi, D. Garbuz and A. Gross
Articular debridement versus washout for degeneration of the medial femoral condyle 217
M. J. S. Hubbard
Fracture of the metal tibial tray after Kinematic total knee replacement 220
P. J. Abernethy, C. M. Robinson and R. M. Fowler
Patellar resurfacing versus retention in total knee arthroplasty 226
J. A. Feller, R. J. Bartlett and D. M. Lang
An evaluation of the Constant-Murley shoulder assessment 229
V. B. Conboy, R. W. Morris, J. Kiss and A. J. Carr
Analgesic effect of extracorporeal shock-wave therapy on chronic tennis elbow 233
J. D. Rompe, C. Hopf, K. Küllmer, J. Heine and R. Bürger
Anterior interosseous nerve lesions 238
P. Seror
Patterns of degenerative change in the acromioclavicular joint 242
J. G. Edelson
A floating prosthesis for radial-head fractures 244
T. Judet, C. Garreau de Loubresse, P. Piriou and G. Charnley
Distal tibiofibular synostosis after ankle fracture 250
G. H. R. Albers, A. F. C. C. de Kort, P. R. J. M. Middendorf and C. Niek van Dijk
MRI of early osteonecrosis of the femoral head after transcervical fracture 253
N. Sugano, K. Masuhara, N. Nakamura, T. Ochi, A. Hirooka and Y. Hayami
Cytological diagnosis of bone tumours 258
A. Kreicbergs, H. C. F. Bauer, O. Brosjö, J. Lindholm, L. Skoog and V. Söderlund
The Ilizarov method in the management of giant-cell tumours of the proximal tibia 264
H. Tsuchiya, K. Tomita, Y. Shinokawa, K. Minematsu, S. Katsuo and J. Taki
Structural bulk allografts in acetabular reconstruction 270
J. P. Hooten Jr, C. A. Engh, R. D. Heekin and T. N. Vinh
The significance of an absent ankle reflex 276
M. G. Bowditch, P. Sanderson and J. P. Livesey
Prospective clinical and joint simulator studies of a new total hip arthroplasty using alumina ceramic heads and cross-linked polyethylene cups 280
B. M. Wroblewski, P. D. Siney, D. Dowson and S. N. Collins
Stiffness measurements to assess healing during leg lengthening 286
J. S. M. Dwyer, P. J. Owen, G. A. Evans, J. H. Kuiper and J. B. Richardson
Leg lengthening in Turner dwarfism 290
G. P. Trivella, F. Brigadoi and R. Aldegheri
Function of dislocated hips in children with lower level spina bifida 294
B. A. Alman, M. Bhandari and J. G. Wright
Anterior release for fixed-flexion deformity of the hip in spina bifida 299
P. A. Frawley, N. S. Broughton and M. B. Menelaus
Obstetric brachial plexus palsy associated with breech delivery 303
G. Geutjens, A. Gilbert and K. Helsen
Occipito-atlanto-axial fusion in Morquio-Brailsford syndrome 307
A. O. Ransford, H. A. Crockard, J. M. Stevens and S. Modaghegh
MRI of 'idiopathic' juvenile scoliosis 314
S. C. Evans, M. A. Edgar, M. A. Hall-Craggs, M. P. Powell, B. Taylor and H. Noordeen
Porosity reduction in bone cement at the cement-stem interface 349
N. E. Bishop, S. Ferguson and S. Tepic
Orthopaedic bone drills – can they be improved? 357
C. Natali, P. Ingle and J. Dowell
Biomechanical properties of cortical allograft bone using a new method of bone strength measurement 363
A. J. Hamer, J. R. Strachan, M. M. Black, C. J. Ibbotson, I. Stockley and R. A. Elson
Foreign-body reaction and the course of osteolysis after polyglycolide implants for fracture fixation 369
A. Weiler, H.-J. Helling, U. Kirch, T. K. Zirbes and K. E. Rehm

Transforming growth factor-ß1 stimulates bone ongrowth to weight-loaded tricalcium phosphate coated implants 377
M. Lind, S. Overgaard, B. Ongpipattanakul, T. Nguyen, C. Bünger and K. Søballe
Stress fracture of the pubic ramus in female recruits 383
P. F. Hill, S. Chatterji, D. Chambers and J. D. Keeling
Two-way compression along the shaft and the neck of the femur with the Medoff sliding plate 387
K. Lunsjö, L. Ceder, L. Stigsson and A. Hauggaard
Unipolar or bipolar prosthesis for displaced intracapsular hip fracture in octogenarians 391
S. J. Calder, G. H. Anderson, C. Jagger, W. M. Harper and P. J. Gregg
Postoperative treatment of internally fixed ankle fractures 395
C. J. H. M. van Laarhoven, J. D. Meeuwis and C. van der Werken
Pathological fractures of the proximal femur with impending shaft fractures treated by THR and cemented intramedullary nailing 400
G. Voggenreiter, S. Assenmacher, W. Klaes and K.-P. Schmit-Neuerburg
Redisplaced unstable fractures of the distal radius 404
M. M. McQueen, C. Hajducka and C. M. Court-Brown
Long-term results of conservative treatment for acromioclavicular dislocation 410
M. L. Rawes and J. J. Dias
Dynamic radio-ulnar convergence after the Darrach procedure 413
M. D. McKee and R. R. Richards
Late management of post-traumatic palmar carpal subluxation 419
E. Apergis, K. Dimitrakopoulos, K. Chorianopoulos and G. Theodoratos
Early migration predicts late aseptic failure of hip sockets 422
M. Krismer, B. Stöckl, M. Fischer, R. Bauer, P. Mayrhofer and M. Ogon
Postoperative deep-vein thrombosis in Asian patients is not a rarity 427
K. S. Dhillon, A. Askander and S. Doraisamy
Serum C-reactive protein levels after total hip and knee arthroplasty 431
R. O. Niskanen, O. Korkala and H. Pammo
Fibrinolytic inhibition with tranexamic acid reduces blood loss and blood transfusion after knee arthroplasty 434
G. Benoni and H. Fredin
Survivorship analysis of the Kinematic Stabilizer total knee replacement 441
K. P. Emmerson, C. G. Moran and I. M. Pinder
Non-operative management of anterior cruciate ligament injuries in the general population 446
P.-P. Casteleyn and F. Handelberg
Magnetic resonance imaging of patellar tendonitis 452
D. P. Johnson, C. J. Wakeley and I. Watt
Arteriovenous fistula after fibular osteotomy leading to recurrent haemarthroses in a total knee replacement 458
F. S. Haddad, C. M. Prendergast, J. H. Dorrell and A. D. Platts
Syme's amputation revisited 461
W. J. Gaine and S. W. McCreath
Extensile posterior approach to the ankle 468
A. G. Hayes and J. B. Nadkarni
Simultaneous open reduction and Salter innominate osteotomy for developmental dysplasia of the hip 471
R. K. Haidar, R. S. Jones, D. A. Vergroesen and G. A. Evans
The prognosis for walking in osteogenesis imperfecta 477
K. Daly, A. Wisbeach, I. Sanpera Jr and J. A. Fixsen
Acquired thumb flexion contracture in children 481
J. B. Slakey and W. L. Hennrikus
Ultrasound assessment and conservative management of inversion injuries of the ankle in children 484
A. P. Gleeson, M. J. Stuart, B. Wilson and B. Phillips
Engelmann's disease 488
A. C. Grey, R. Wallace and M. Crone
A hereditable combination of congenital anomalies 492
R. P. Agarwal, D. Jain, C. S. Ramesh Babu and R. K. Garg

Herbert screw fixation of scaphoid fractures 519
S. L. Filan and T. J. Herbert
Established nonunion of the scaphoid treated by volar wedge grafting and Herbert screw fixation 530
K. Daly, P. Gill, P. A. Magnussen and R. B. Simonis
Carpal box radiography in suspected scaphoid fracture 535
W. Roolker, M. M. C. Tiel-van Buul, P. M. M. Bossuyt, A. J. Bakker, K. E. Bos, R. K. Marti and A. H. Broekhuizen
Soft-tissue balance and recovery of proprioception after total knee replacement 540
S. F. Attfield, T. J. Wilton, D. J. Pratt and A. Sambatakakis
Hypersensitivity in aseptic loosening of total hip replacements 546
F. S. Haddad, A. G. Cobb, G. Bentley, N. J. Levell and P. M. Dowd
Graded compression stockings for prevention of deep-vein thrombosis after hip and knee replacement 550
A. C. W. Hui, C. Heras-Palou, I. Dunn, P. D. Triffitt, A. Crozier, J. Imeson and P. J. Gregg
Short-term recovery from hip and knee arthroplasty 555
H. Aarons, G. Hall, S. Hughes and P. Salmon
The Omega lateral approach to the hip 559
I. D. Learmonth and P. E. Allen
Medial ankle pain after lateral ligament rupture 562
C. N. van Dijk, P. M. M. Bossuyt and R. K. Marti
Comparison of two conservative methods of treating an isolated fracture of the lateral malleolus 568
A. M. Port, J. L. McVie, G. Naylor and D. N. Kreibich
MRI in acute knee dislocation 573
B. C. Twaddle, J. C. Hunter, J. R. Chapman, P. T. Simonian and E. M. Escobedo
Reamed or unreamed nailing for closed tibial fractures 580
C. M. Court-Brown, E. Will, J. Christie and M. M. McQueen
Thermal necrosis after tibial reaming for intramedullary nail fixation 584
M. Leunig and R. Hertel
Fractures of the distal end of the radius treated by internal fixation and early function 588
D. A. Rikli and P. Regazzoni
Questionnaire on the perceptions of patients about shoulder surgery 593
J. Dawson, R. Fitzpatrick and A. Carr
Shoulder pain in long-term haemodialysis patients 601
T. Konishiike, H. Hashizume, K. Nishida, H. Inoue and N. Nagoshi
The afferent pathways of discogenic low-back pain 606
S.-I. Nakamura, K. Takahashi, Y. Takahashi, M. Yamagata and H. Moriya
The cervical spine in athetoid cerebral palsy 613
T. Harada, S. Ebara, M. M. Anwar, A. Okawa, I. Kajiura, K. Hiroshima and K. Ono
Torticollis secondary to ocular pathology 620
C. R. P. Williams, E. O'Flynn, N. M. P. Clarke and R. J. Morris
Management of Perthes' disease of late onset in Southern India 625
B. Joseph, G. Srinivas and R. Thomas
Avascular necrosis and the Pavlik harness 631
S. Suzuki, N. Kashiwagi, Y. Kasahara, Y. Seto and T. Futami
Hip abnormalities detected by ultrasound in clinically normal newborn infants 636
T. Terjesen, K. J. Holen and A. Tegnander
Periprosthetic bone resorption 641
P. Aspenberg and P. Herbertsson
Influence of materials for fixation implants on local infection 647
S. Arens, U. Schlegel, G. Printzen, W. J. Ziegler, S. M. Perren and M. Hansis
The outcome and functional results of diaphyseal endoprostheses after tumour excision 652
A. Abudu, S. R. Carter and R. J. Grimer
Surgical resection of primary soft-tissue sarcoma 658
J. R. Goodlad, C. D. M. Fletcher and M. A. Smith
The surgical treatment and outcome of pathological fractures in localised osteosarcoma 694
A. Abudu, N. K. Sferopoulos, R. M. Tillman, S. R. Carter and R. J. Grimer

Osteosarcoma of the scaphoid 699
A. Marcuzzi, A. Maiorana, R. Adani, V. Spina, R. Busa and A. Caroli
Osteoblastoma of the humerus associated with type-I Gaucher's disease 702
S. Kenan, I. F. Abdelwahab, G. Hermann, M. Klein and G. Pastores
The management of war wounds involving bone 706
D. I. Rowley
Treatment of high-energy tibial plateau fractures by the Ilizarov circular fixator 710
G. K. Dendrinos, S. Kontos, D. Katsenis and A. Dalas
Narrowing of the joint space of the hip after traumatic shortening of the femur 718
S.-C. Hung, T. Kurokawa, K. Nakamura, T. Matsushita, R. Shiro and H. Okazaki
Degenerative changes at the knee and ankle related to malunion of tibial fractures 722
D. K. E. van der Schoot, A. J. Den Outer, P. J. Bode, W. R. Obermann and A. B. van Vugt
Consistency of AO fracture classification for the distal radius 726
H. J. Kreder, D. P. Hanel, M. McKee, J. Jupiter, G. McGillivary and M. F. Swiontkowski
Saline load test for penetration of periarticular lacerations 732
G. A. Voit, G. Irvine and R. K. Beals
Operative fixation of Monteggia fractures in children 734
D. Ring and P. M. Waters
Refracture of the forearm in children 740
N. Schwarz, S. Pienaar, A. F. Schwarz, M. Jelen, W. Styhler and J. Mayr
Long-term results after realignment operations for slipped upper femoral epiphysis 745
R. Jerre, G. Hansson, J. Wallin and J. Karlsson
Congenital dislocation of the hip in extrauterine pregnancy 751
M. G. Uglow and N. M. P. Clarke
Nerve grafting in brachial plexus injuries 754
N. Ochiai, A. Nagano, H. Sugioka and T. Hara
Pain relief from preganglionic injury to the brachial plexus by late intercostal nerve transfer 759
J. Berman, P. Anand, L. Chen, M. Taggart and R. Birch
Transfer of latissimus dorsi for irreparable rotator-cuff tears 761
M. Aoki, K. Okamura, S. Fukushima, T. Takahashi and T. Ogino
Distal rupture of the tendon of biceps brachii 767
J. C. Le Huec, M. Moinard, F. Liquois, R. Zipoli, D. Chauveaux and A. Le Rebeller
Non-traumatic paralysis of the posterior interosseous nerve 771
H. Hashizume, K. Nishida, Y. Nanba, Y. Shigeyama, H. Inoue and Y. Morito
Medial epicondylectomy or ulnar-nerve transposition for ulnar neuropathy at the elbow? 777
G. G. Geutjens, R. J. Langstaff, N. J. Smith, D. Jefferson, C. J. Howell and N. J. Barton
Bilateral chronic compartment syndrome in the forearm and the hand 780
T. A. Söderberg
Wrist arthrodesis in rheumatoid arthritis 783
J. Pech, A. Sosna, V. Rybka and D. Pokorný
Non-cemented replacement of the trapeziometacarpal joint 787
S. W. Wachtl and G. R. Sennwald
Tissue pressures in pyogenic flexor tenosynovitis of the finger 793
S. B. Schnall, T. Vu-Rose, P. D. Holtom, B. Doyle and M. Stevanovic
Migration of cemented femoral components after THR 796
J. Kiss, D. W. Murray, A. R. Turner-Smith, J. Bithell and C. J. Bulstrode
Long-term comparison of Charnley and Stanmore design total hip replacements 802
A. R. Britton, D. W. Murray, C. J. Bulstrode, K. McPherson and R. A. Denham
Cement-within-cement revision hip arthroplasty; should it be done? 809
P. L. S. Li, P. J. Ingle and J. K. Dowell
Anterior compartment syndrome after revision hip arthroplasty 812
J. E. Nicholl, S. Calzada and A. V. Bonnici
Acute calcific tendinitis of the rectus femoris 814
J. S. Sarkar, F. S. Haddad, S. V. Crean and P. Brooks
Arthroscopic reconstruction of the anterior cruciate ligament using bone-patellar tendon-bone grafts with and without augmentation 817
T. Grøntvedt, L. Engebretsen and T. Bredland

MRI and morphology of the insertion of the patellar tendon after graft harvesting 823
S. H. Liu, D. W. Hang, A. Gentili and G. A. M. Finerman
Avascular necrosis of the talus treated by core decompression 827
M. A. Mont, L. C. Schon, M. W. Hungerford and D. S. Hungerford
Evaluation of the Singh index for measuring osteoporosis 831
V. C. M. Koot, S. M. M. J. Kesselaer, G. J. Clevers, P. de Hooge, T. Weits and Chr Van Der Werken
Optimisation of ultraclean air 835
S. A. Chosky, D. Modha and G. J. S. Taylor
Gram stain detection of infection during revision arthroplasty 838
G. F. Chimento, S. Finger and R. L. Barrack
Thromboprophylaxis and death after total hip replacement 863
D. W. Murray, A. Britton and C. J. K. Bulstrode
Rotational acetabular osteotomy for severe dysplasia of the hip with a false acetabulum 871
H. Shindo, H. Igarashi, H. Taneda and H. Azuma
Avascular necrosis of the femoral head after allogenic bone-marrow transplantation 878
P. Bizot, J. Witvoet and L. Sedel
Long-term clinical and radiological results of the Lord total hip prosthesis 884
H. Malchau, P. Herberts, Y. X. Wang, J. Kärrholm and B. Romanus
Femoral canal occlusion in total hip replacement using a resorbable and flexible cement restrictor 892
S. K. Bulstra, R. G. T. Geesink, D. Bakker, T. H. Bulstra, S. J. M. Bouwmeester and A. J. van der Linden
Nerve injury after posterior and direct lateral approaches for hip replacement 899
A. E. Weale, P. Newman, I. T. Ferguson and G. C. Bannister
Damage to the superior gluteal nerve after the Hardinge approach to the hip 903
M. Ramesh, J. M. O'Byrne, N. McCarthy, A. Jarvis, K. Mahalingham and W. F. Cashman
Kinematic condylar total knee arthroplasty 907
D. J. Weir, C. G. Moran and I. M. Pinder
Surgical release of knee flexion contractures in myelomeningocele 912
P. D. Marshall, N. S. Broughton, M. B. Menelaus and H. K. Graham
Femoral remodelling after subtrochanteric osteotomy for developmental dysplasia of the hip 917
S. M. Sangavi, G. Szöke, D. W. Murray and M. K. D. Benson
Ludloff's medial approach for open reduction of congenital dislocation of the hip 924
W. Koizumi, H. Moriya, K. Tsuchiya, T. Takeuchi, M. Kamegaya and T. Akita
The orthopaedic implications of peripheral limb ischaemia in infants and children 930
M. J. Farrar, G. C. Bennet, N. I. L. Wilson and A. Azmy
Simple bone cysts treated by percutaneous autologous marrow grafting 934
F. Lokiec, E. Ezra, O. Khermosh and S. Wientroub
Spinal problems in mucopolysaccharidosis I (Hurler Syndrome) 938
V. Tandon, J. B. Williamson, R. A. Cowie and J. E. Wraith
Development of pathological lumbar kyphosis in myelomeningocele 945
C. Carstens, H. Koch, D. R. C. Brocai and F. U. Niethard
The influence of pregnancy on the development of degenerative spondylolisthesis 951
P. L. Sanderson and R. D. Fraser
Soft-tissue injuries of the cervical spine 955
B. Squires, M. F. Gargan and G. C. Bannister
Physical examination is sufficient for the diagnosis of sprained ankles 958
C. N. van Dijk, L. S. L. Lim, P. M. M. Bossuyt and R. K. Marti
Accuracy of intramedullary templates in femoral and tibial radiographs 963
C. Krettek, M. Blauth, T. Miclau, J. Rudolf, B. Konemann and P. Schandelmaier
Stress distribution inside intervertebral discs 965
M. A. Adams, D. S. McNally and P. Dolan
Femoral component revision using impacted morsellised cancellous graft 973
A. L. Malkani, M. J. Voor, K. A. Fee and C. S. Bates
The forces which develop in the tissues during leg lengthening 979
A. H. R. W. Simpson, J. L. Cunningham and J. Kenwright
Cytotoxicity of phenol to musculoskeletal tumours 984
U. Quint, U. Vanhofer, A. Harstrick and R. T. Muller

Brief reports

Complete femoral nerve division at total hip arthroplasty 148
Th Fabre, J. Bernez, F. De Coucy, S. R. Del Villar and A. Durandeau
Modified Boyd amputation 149
B. Kornah
Popliteal artery compression: a complication of Gore-tex anterior cruciate ligament reconstruction 151
T. J. W. Spalding, D. J. Botsford, M. Ford and P. H. Marks
Subhepatic migration of a hip prosthesis 152
J. M. Muñoz Vives, D. Martí Garin and R. Girvent Montllor
Myositis ossificans 318
N. Hyder, D. L. Shaw and S. R. Bollen
Radiological screening for congenital hip dislocation in the infant 'at risk' 319
L. D'Souza, D. Hynes and F. McManus
The centre-edge angle of Wiberg in the adult Indian population 320
S. Mandal and S. Bhan
Persistent synovial fistula after arthroscopy 322
P. L. S. Li, A. J. Chakrabarti and J. K. Dowell
Aneurysmal bone cyst in monozygotic twins 323
R. A. Power, P. D. Robbins and D. J. Wood
Closed vascular injury of the finger 325
G. E. B. Giddins and P. D. Burge
Congenital vertical talus with a talocalcaneal coalition 326
D. M. Klein, A. A. Merola and C. R. Spero
Drop attacks and instability of the degenerate cervical spine 495
G. J. van Norel and W. I. M. Verhagen
Smith-Petersen vitallium mould arthroplasty: a 45-year follow-up 496
K. Mahalingam and D. Reidy
The vascular supply to bone in distraction osteoneogenesis: an experimental study 497
R. Mosheiff, J. Cordey, B. A. Rahn, S. M. Perren and H. Stein
Compartment syndrome in tibial shaft fracture missed because of a local nerve block 499
N. Hyder, S. Kessler, A. G. Jennings and P. G. De Boer
Spontaneous resolution of an osseous bridge affecting the distal tibial epiphysis 662
S. H. Bostock and B. G. S. Peach
Prosthetic replacement of a chondrosarcoma of the upper end of the femur: a 43-year follow-up 663
A. C. Bingold and A. J. L. Percy
Recurrent locking of the wrist due to dorsal midcarpal subluxation 664
M. A. C. Craigen
Idiopathic osteolysis of the acetabulum: a case report 666
B. Nemec, D. Matovinović, G. Gulan, S. Kozić and T. Schnurrer
CT-guided trephine excision of an infected iliac pin site after pelvic fracture 668
P. F. Partington, R. J. Montgomery and G. P. Naisby

Instructional Course Lectures

Management of lumbar spinal stenosis 154
F. Postacchini
Chronic patellofemoral instability 328
D. Dandy
Chromosomal aberrations in musculoskeletal tumours: clinical importance 501
A. Rydholm
Chronic anterior glenohumeral instability 670
G. Walch
Care of the polytraumatised patient 840
H. Tscherne and G. Regel

Brachial plexus injuries 986
R. Birch

Obituaries
Hugh Collis Barry 1912–1994 336
Jack Stevens 1926–1995 337
Karl Iversen Nissen 1906 – 1995 507
Jacques Robichon 1913 – 1995 508
Edgar William Somerville 1913 – 1996 678
Sir John Golding 1921 – 1996 993
George Dall 1921 – 1996 994

Correspondence
Death and thromboembolic disease 165
Bone cement and deep-vein thrombosis 166
Cyclical micromovement and fracture healing 166
Perioperative low-molecular-weight heparin 167
Eosinophilic synovitis 168
Variability in Cobb angle measurements 339
Which primary total hip replacement? 509
Knee pain after tibial nailing 510
Incidence of cancer after total hip replacement 680
Conservative treatment of complete ACL tears 680
Quantifying osteonecrosis of the femoral head using MRI 681
RSA in the assessment of aseptic loosening 682
Eosinophilic synovitis 682
Acute compartment syndrome in tibial diaphyseal fractures 683
Percutaneous autogenous bone-marrow grafting 683
Varus derotational osteotomy for persistent dysplasia in CDH 853
Patellar resurfacing versus retention in total knee arthroplasty 853
Articular debridement versus washout for degeneration of the medial femoral condyle 854
Transcardiac echocardiography during invasive intramedullary procedures 854
Obesity and quality of life after primary hip arthroplasty 855
Questionnaire on the perceptions of patients about total hip replacement 856
Tranexamic acid reduces blood loss after knee arthroplasty 995
Compartment syndrome in tibial shaft fracture missed because of a local nerve block 996
Effect of femoral offset on motion and abductor muscle strength after total hip arthroplasty 997
Displaced fractures of the distal femur in elderly patients 998

Book reviews 169, 340, 512, 685, 857, 999

Corrections 1002

Forthcoming meetings 171, 341, 515, 687, 858, 1003

Author Index 1005

Subject Index 1013